UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,562	11/25/2003	John Santhoff	052-110	9930

44279 7590 06/01/2005

PULSE-LINK, INC.
1969 KELLOGG AVENUE
CARLSBAD, CA 92008

EXAMINER	
DAVIS, CYNTHIA L	
ART UNIT	**PAPER NUMBER**
2665	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/723,562	SANTHOFF ET AL.
	Examiner	Art Unit
	Cynthia L Davis	2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-47 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-47 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 25 November 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 11/25/03, 7/30/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 2, 14, 18-23, 26, 30-37, 41-42, 44, and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Shattil.

Regarding claim 1, a communication system comprising: a receiver structured to receive a substantially continuous sine wave carrier signal, the signal modulated to contain communication data is disclosed in Shattil, figure 53; column 3, lines 39-42 (disclosing receipt of carrier signals); and column 12, line 6 (a sine wave is a type of periodic signal). A demodulator communicating with the receiver, the demodulator structured to demodulate the communication data from the substantially continuous sine wave carrier signal is disclosed in column 59, lines 45-46. A transmitter coupled to the demodulator is disclosed in the abstract (disclosing a transceiver architecture, which would have the transmitter coupled to the demodulator). The transmitter including an electromagnetic pulse generating circuit, with the electromagnetic pulse generating circuit structured to transmit a plurality of electromagnetic pulses, with the pulses configured to include the communication data is disclosed in figures 24A-24C.

Regarding claim 2, the substantially continuous sine wave carrier signal is selected from a group consisting of: an amplitude modulated signal, a phase angle modulated signal, a frequency angle modulated signal, an orthogonal frequency division

multiplexing modulated signal, a quadrature amplitude modulation signal, a dual sideband modulated signal, a single sideband modulated signal, and a vestigial sideband modulated signal is disclosed in column 3,lines 54-60 (disclosing modulating the signal amplitudes and frequencies).

Regarding claim 14, the communication data is segmented into individual components selected from a group consisting of: received data, routing information, destination information, quality-of-service information, bit-error-rate information, priority information and latency information is disclosed in column 56, lines 64-66 (disclosing sending of an information signal comprised of received data).

Regarding claim 18, a first transmission medium coupled to the receiver, wherein the receiver receives the substantially continuous sine wave carrier signal through the first transmission medium is disclosed in column 3,lines 39-41 (disclosing the receiving of carrier signals).

Regarding claim 19, the first transmission medium is a wireless medium is disclosed in column 4, line 14.

Regarding claim 20, the first transmission medium is selected from a group consisting of: an optical fiber ribbon, a fiber optic cable, a single mode fiber optic cable, a multi-mode fiber optic cable, a twisted pair wire, an unshielded twisted pair wire, a plenum wire, a PVC wire, a coaxial cable, and an electrically conductive material is disclosed in column 12, lines 14-17.

Regarding claim 21, a second transmission medium coupled to the transmitter wherein the transmitter transmits the plurality of electromagnetic pulses through the second transmission medium is disclosed in figure 50A (showing a pulse transmitter).

Regarding claim 22, the second transmission medium is a wireless medium is disclosed in column 4, line 14.

Regarding claim 23, the second transmission medium is selected from a group consisting of: an optical fiber ribbon, a fiber optic cable, a single mode fiber optic cable, a multi-mode fiber optic cable, a twisted pair wire, an unshielded twisted pair wire, a plenum wire, a PVC wire, a coaxial cable, and an electrically conductive material is disclosed in column 12, lines 14-17.

Regarding claim 26, a receiver structured to receive a plurality of electromagnetic pulses, with the electromagnetic pulses configured to include communication data is disclosed in Shattil, column 57, lines 27-30. A demodulator communicating with the receiver, the demodulator structured to demodulate the communication data from the plurality of electromagnetic pulses is disclosed in column 59, lines 45-46. A transmitter coupled to the demodulator is disclosed in the abstract (disclosing a transceiver architecture, which would have the transmitter coupled to the demodulator). The transmitter including an electromagnetic pulse generating circuit, with the electromagnetic pulse generating circuit structured to transmit a substantially continuous sine wave carrier signal, with the substantially continuous sine wave carrier signal modulated to contain the communication data is disclosed in figures 24A-24C.

Regarding claim 30, the substantially continuous sine wave carrier signal is selected from a group consisting of an amplitude modulated signal, a phase angle modulated signal, a frequency angle modulated signal, an orthogonal frequency division multiplexing modulated signal, a quadrature amplitude modulation signal, a dual sideband modulated signal, a single sideband modulated signal, and a vestigial sideband modulated signal is disclosed in column 12, line 6 (a substantially continuous sine wave carrier signal format is a type of periodic signal).

Regarding claim 31, a first transmission medium coupled to the receiver, wherein the receiver receives the plurality of electromagnetic pulses through the first transmission medium is disclosed in Shattil, column 57, lines 27-30 (disclosing the receiving of pulses.

Regarding claim 32, the first transmission medium is a wireless medium is disclosed in column 4, line 14.

Regarding claim 33, the first transmission medium is selected from a group consisting oft an optical fiber ribbon, a fiber optic cable, a single mode fiber optic cable, a multi-mode fiber optic cable, a twisted pair wire, an unshielded twisted pair wire, a plenum wire, a PVC wire, a coaxial cable, and an electrically conductive material is disclosed in column 12, lines 14-17.

Regarding claim 34, a second transmission medium coupled to the transmitter, wherein the transmitter transmits the substantially continuous sine wave carrier signal through the second transmission medium is disclosed in column 3, lines 39-42 (disclosing the transmitting of carrier signals).

Regarding claim 35, the second transmission medium is a wireless medium is disclosed in column 4, line 14.

Regarding claim 36, the second transmission medium is selected from a group consisting of: an optical fiber ribbon, a fiber optic cable, a single mode fiber optic cable, a multi-mode fiber optic cable, a twisted pair wire, an unshielded twisted pair wire, a plenum wire, a PVC wire, a coaxial cable, and an electrically conductive material is disclosed in column 12, lines 14-17.

Regarding claim 37, the communication data is segmented into individual components selected from a group consisting of: received data, routing information, destination information, quality-of-service information, bit-error-rate information, priority information and latency information is disclosed in column 56, lines 64-66 (disclosing sending of an information signal comprised of received data).

Regarding claim 41, receiving data is disclosed in Shattil, figure 53; demodulating the data is disclosed in column 59, lines 45-46; providing an electromagnetic pulse generating circuit and generating a plurality of electromagnetic pulses arranged to represent the demodulated data is disclosed in figures 24A-24C; transmitting the plurality of electromagnetic pulses is disclosed in column 57, lines 23-27 (disclosing transmission of pulses).

Regarding claim 42, the step of generating a plurality of electromagnetic pulses comprises means for generating a plurality of electromagnetic pulses is disclosed in figures 24A-24C.

Regarding claim 44, the received data comprises a substantially continuous sine wave carrier signal that includes modulated data column 3, lines 39-42 (disclosing receipt of carrier signals); and column 12, line 6 (a sine wave is a type of periodic signal).

Regarding claim 47, the steps of receiving data and transmitting the plurality of electromagnetic pulses comprise: receiving the data and transmitting the plurality of electromagnetic pulses through a medium, the medium selected from a group consisting of: a wireless medium, an optical fiber ribbon, a fiber optic cable, a single mode fiber optic cable, a multi-mode fiber optic cable, a twisted pair wire, an unshielded twisted pair wire, a plenum wire, a PVC wire, a coaxial cable, and an electrically conductive material is disclosed in column 12, lines 14-17.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 3-4, 12-13, 28-29, and 45-46 rejected under 35 U.S.C. 103(a) as being unpatentable over Shattil.

Regarding claim 3, the substantially continuous sine wave carrier signal has a radio frequency bandwidth that may range between about 10 kilohertz to about 5 megahertz is missing from Shattil. However, it is generally considered to be within the ordinary range of skill in the art to adjust, vary, select, or optimize the numerical

parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943).

Regarding claim 12, each of the electromagnetic pulses may vary in amplitude from about -5 volts to about 5 volts is missing from Shattil. However, it is generally considered to be within the ordinary range of skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943).

Regarding claim 13, each of the plurality of electromagnetic pulses may have a duration ranging from about 1 pico-second to about 1 milli-second is missing from Shattil. However, it is generally considered to be within the ordinary range of skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943).

Regarding claim 28, the electromagnetic pulses may vary in amplitude from about -5 volts to about 5 volts is missing from Shattil. However, it is generally considered to be within the ordinary range of skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of

criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943).

Regarding claim 29, the electromagnetic pulses may have a duration from about 1 pico-second to about 1 milli-second is missing from Shattil. However, it is generally considered to be within the ordinary range of skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943).

Regarding claim 45, step of transmitting the plurality of electromagnetic pulses comprises transmitting a plurality of multi-band electromagnetic pulses that have a radio frequency bandwidth that may range between about 200 megahertz to about 1 gigahertz is missing from Shattil. However, it is generally considered to be within the ordinary range of skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943).

Regarding claim 46, the step of transmitting the plurality of electromagnetic pulses comprises transmitting a plurality of single-band electromagnetic pulses have a radio frequency bandwidth that may range between about 2 gigahertz to greater than 10

gigahertz is missing from Shattil. However, it is generally considered to be within the ordinary range of skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943).

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shattil in view of Messershmitt.

Regarding claim 4, the demodulator being selected from a group consisting of: an amplitude demodulation circuit, a quadrature amplitude demodulation circuit, a frequency angle demodulation circuit, a phase angle demodulation circuit, and an orthogonal frequency division demodulating circuit is missing from Shattil. However, Messershmitt discloses in column 4, lines 9-11, that quadrature amplitude demodulation techniques are well known in the art. It would have been obvious to one skilled in the art at the time of the invention to use a quadrature amplitude demodulation circuit for the demodulator of Shattil (see Shattil, column 12, line 59-65). The motivation would be to use a demodulator that is well known in the art.

4. Claims 5-9, 11, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shattil in view of Takamori.

Regarding claim 5, a control unit is disclosed in figure 24A, element 225 and column 28, lines 27-28 (the timer is the control unit). A switch structured to receive a signal from the control unit is disclosed in column 28, lines 26-28 and figure 24A,

element 227. At least two current sources; and at least two switching elements connected to the current sources, each of the switching elements structured to receive a signal from the control unit; the switch connected to the at least two switching elements is missing from Shattil. However, Takamori discloses in column 5, lines 24-26, a pulse generator having multiple current sources and switching elements. It would have been obvious to one skilled in the art at the time of the invention to use at least two current sources and switching elements in the pulse generator of Shattil. The motivation would be to use commonly available electrical components to build the generator. A load connected to the switch is disclosed in figure 24A, elements 219 and 223 (showing electrical components connected to the switch).

Regarding claim 6, a first set of resistive elements connected to the current sources, and to the switching elements, the resistive elements also connected to a second voltage level is missing from Shattil. However, resistors are defined as electrical components used to oppose but not obstruct the flow of current, so as to regulate current and voltage levels (see Newton's telecom dictionary, page 698). It would have been obvious to one skilled in the art at the time of the invention to use resistors in the pulse generator of Shattil. The motivation would be to regulate current levels.

Regarding claim 7, a second set of resistive elements connected to the switching elements, and to the switch, the second set of resistive elements also connected to the second voltage level is missing from Shattil. However, resistors are defined as electrical components used to oppose but not obstruct the flow of current, so as to

regulate current and voltage levels (see Newton's telecom dictionary, page 698). It would have been obvious to one skilled in the art at the time of the invention to use resistors in the pulse generator of Shattil. The motivation would be to regulate current levels.

Regarding claim 8, the current sources are comprised of at least one transistor is disclosed in figure 24B and column 28, lines 28-30 (showing use of transistors in the pulse generator).

Regarding claim 9, each of the at least two switching elements comprise at least one transistor is disclosed in column 51, lines 34-35 of Shattil.

Regarding claim 11, the load is selected from a group consisting of: a resistive element, an energy storage element, and a capacitor is disclosed in column 51, lines 44-46.

Regarding claim 27, the electromagnetic pulse generating circuit comprises: a control unit is disclosed in figure 24A, element 225 and column 28, lines 27-28 (the timer is the control unit). A switch structured to receive a signal from the control unit is disclosed in column 28, lines 26-28 and figure 24A, element 227. A first set of current sources connected to a first voltage, a first set of switching elements connected to the first set of current sources, each of the first set of switching elements structured to receive a signal from the control unit; a switch connected to the first set of switching elements; a second set of switching elements connected to the switch, each of the second set of switching elements structured to receive a signal from the control unit; a second set of current sources connected to the second set of switching elements, each

of the second set of current sources connected to a second voltage level is missing from Shattil. However, Takamori discloses in column 5, lines 24-26, a pulse generator having multiple current sources and switching elements. It would have been obvious to one skilled in the art at the time of the invention to use at least two current sources and switching elements in the pulse generator of Shattil. The motivation would be to use commonly available electrical components to build the generator. A load connected to the switch, and to the second voltage level is disclosed in figure 24A, elements 219 and 223 (showing electrical components connected to the switch).

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shattil in view of Takamori in further view of Leonard.

Regarding claim 10, the switch comprises an inverter is missing from Shattil. However, Leonard discloses in column 3, lines 7-8, a switch that comprises an inverter. It would have been obvious to one skilled in the art to use an inverter in the switch of Shattil. The motivation would be to use an known, old type of switch.

6. Claim 15-17 and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shattil in view of Onishi.

Regarding claim 15, the communication data is received in a first communication format, segmented, and re-assembled in a second communication format is missing from Shattil. However, Onishi discloses in column 24, lines 8-19, use of segmentation and reassembly to convert between data formats. It would have been obvious to one skilled in the art at the time of the invention to use segmentation and reassembly to

convert between the data formats of Shattil. The motivation would be to use an old, known technique for converting formats.

Regarding claim 16, the second communication format comprises an ultra-wideband communication format is disclosed in Shattil, column 57, lines 30-32.

Regarding claim 17, the first communication format includes a format selected from a group consisting of: a substantially continuous sine wave carrier signal format; an amplitude modulated signal format, a phase angle modulated signal format, a frequency angle modulated signal format, an orthogonal frequency division multiplexing modulated signal format, a quadrature amplitude modulation signal format, a dual sideband modulated signal format, a single sideband modulated signal format, and a vestigial sideband modulated signal format is disclosed in column 12, line 6 (a substantially continuous sine wave carrier signal format is a type of periodic signal).

Regarding claim 38, the communication data is received in a first communication format, segmented, and re-assembled in a second communication format is missing from Shattil. However, Onishi discloses in column 24, lines 8-19, use of segmentation and reassembly to convert between data formats. It would have been obvious to one skilled in the art at the time of the invention to use segmentation and reassembly to convert between the data formats of Shattil. The motivation would be to use an old, known technique for converting formats.

Regarding claim 39, the first communication format comprises an ultra-wideband communication format is disclosed in Shattil, column 57, lines 30-32.

Regarding claim 40, the second communication format includes a format selected from a group consisting of: a substantially continuous sine wave carrier signal format; an amplitude modulated signal format, a phase angle modulated signal format, a frequency angle modulated signal format, an orthogonal frequency division multiplexing modulated signal format, a quadrature amplitude modulation signal format, a dual sideband modulated signal format, a single sideband modulated signal format, and a vestigial sideband modulated signal format is disclosed in column 12, line 6 (a substantially continuous sine wave carrier signal format is a type of periodic signal).

7. Claim 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shattil in view of Bickley.

Regarding claim 24, each of the plurality of transmitted electromagnetic pulses occupies substantially the same radio frequency spectrum is missing from Shattil. However, Bickley disclosed in column 1, lines 20-27, pulses occupying the same narrow frequency band so as not to interfere with other channels. It would have been obvious to one skilled in the art to confine the pulses to substantially the same frequencies. The motivation would be to reduce interference between frequency channels.

Regarding claim 25, each of the plurality of electromagnetic pulses is transmitted so that each pulse occupies a discrete portion of the radio frequency spectrum is missing from Shattil. However, Bickley disclosed in column 1, lines 23-27 pulses being shaped in the frequency domain so as not to interfere with other channels. It would have been obvious to one skilled in the art to confine the pulses to a discrete portion of

the spectrum. The motivation would be to reduce interference between frequency channels, and maximize the number of available channels.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shattil in view of Dumoulin.

Regarding claim 43, the transmitted electromagnetic pulses are either a plurality of single-band electromagnetic pulses or a plurality of multi-band electromagnetic pulses is missing from Shattil. However, multi band pulses are disclosed in Dumoulin, column 6, lines 56-57. It would have been obvious to one skilled in the art at the time of the invention to transmit multi band pulses. The motivation would be to use a known type of pulse.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLD CLD
5/23/2005 5/23/05

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600